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REPRINTS OF PAPERS,

READ BEFORE

MEDICAL SOCIETIES,

BY

DANIEL MORTON, M. D.,

ST. JOSEPH, MO. Attending Physician Home of the Friendless. Late Editor Medical Herald.

OFFICE SUPPLY COMPANY PRINT.
LOUISVILLE, KY.

presented by the author —

SOME POINTS REGARDING THE USE OF COCAINE IN URINARY SURGERY.

By DANIEL MORTON, M. D., St. Joseph, Mo. Attending Physician Home of the Friendless. Late Editor Medical Herald.

Read before the Eastern Kansas Medical Society, Leavenworth, July 8th, 1890. Printed in Medical Herald December, 1890.

The doctor who deals with the surgery of the rectum and of the genito-urinary organs of the male and female, has more occasion to use cocaine for anæsthetic purposes than any other of his professional brethren, excepting of course the occulist. The reason for this is evident when it is remembered that this alkaloid exercises its anæsthetic effects chiefly upon mucous membranes, and therefore he who deals most with mucous membranes will have most need for its help. The haemostatic action of the drug (an important property), is frequently lost sight of in the attention which its anæsthetic powers attract. The genital organs of man are highly endowed with nerve sensation, and richly supplied with blood, and every one who has done any surgery on these parts will appreciate the advantages of a drug combining the two properties just mentioned. Many operations that formerly could not be done without general anæsthesia, and which for this reason the patient declined to submit to, are now performed without any objection arising on the part of the patient. In this way cocaine has greatly extended the field of urinary surgery, and made it possible to relieve much suffering, which before the fears of the patient prevented. The paleness of the mucous membrane which follows the injection is the best indication one can have that the cocaine is producing its effect. I have found a four per cent solution the most generally useful, and seldom require a stronger one. This is a little over eighteen grains to the ounce, or two and a quarter grains to the dram. I have administered a dram hypodermically, without any unusual constitutional effects beyond a tendency to talk excessively. In fact the patient sometimes keep up such a clatter of talk that it is annoying, and they will not stop however much conversation may be forbidden. This excitement, however, soon wears off. In urethotomy, as well as all operations upon the penis, a constricting bandage is of service, because it prevents the circulation from carrying away the cocaine, and thus prolongs its anæsthetic effects.

Passage of Sounds.—An oleaginous solution has been recommended for the passage of sounds, but is certainly not as efficient as the aquæous solution. I have frequently introduced a syringeful of oil into the urethra for lubricating purposes before passing a sound, and then endeavored in vain to produce anæsthesia with cocaine. The same result has been noted after the passage of a sound smeared with vaseline, and this experience has led me to believe that oily solutions are not the best.

Irritable Urethra.—Among the most distressing cases that come under the observation of the physician, are those of irritable urethra, associated with prostatic trouble. The catheter can not be passed without exquisite pain, and I have had cases in which there was almost an involuntary passage of feces at every introduction of a soft catheter. All this suffering is easily prevented by simple injection of cocaine solution.

Internal Urethrotomy in the penile urethra can be successfully performed with a four per cent solution, and without suffering. Place the patient on the back and fill the urethra to the cut-off muscle, and allow the solution to remain for at least fifteen minutes before operating. It is also a good plan to give an injection at the point of stricture with the hypodermic needle, and thus throw some of the anæsthetic directly into the strictured area. In the subsequent passage of sounds to prevent adhesion of cut surfaces, cocaine again will relieve pain, but here it is hardly necessary to give the additional interstitial injection. The use of a sound after urethrotomy seems to cause as much suffering as the operation, and it is well to remember, as Sir Henry Thompson says that "The introduction of an instrument is more or less an evil, never to be resorted to unless a greater evil be present which its employment may probably remedy."

Chordee.—In the treatment of gonorrhœa, chordee is a complication that gives great pain to the patients and great annoyance to the physician. The bromides will fail to relieve, camphor will fail to relieve, the whole materia medica will supply nothing to

meet the demand excepting a four per cent solution of cocaine used as an injection. It is the remedy *par excellence*. I might remark in passing that hypnotism is also practiced in cases of chordee.

Meatotomy.—Perhaps this is the most frequent little operation that the urinary surgeon has to perform, and it is a painful one, too, unless cocaine be injected into the line of incision. Right here allow me to say that the meatus should never be cut larger than the normal caliber of the urethra, which should be accurately determined in each case by measurement. And above all things, the opening should not be made so large as to cause hypospadias.

Retention of Urine.—Retention of urine is often due to spasmodic stricture of the urethra. Where this is the case, cocaine injected into the canal will often overcome the spasm and allow the passage of water without the help of a catheter. The same result will often follow in cases of tight stricture, or at any rate, sufficient dilitation will occur to permit the entrance of a filaform to act as a guide for larger instruments.

Hydrocele.—The injection of iodine into a hydrocele causes considerable pain. Carbolic acid injections do not have this objection to the same degree. It has been the custom to first tap the hydrocele, and then when the fluid is drawn off inject through the canula the cocaine solution. It is much better to throw the solution into the hydrocele tumor while distended, and then it will come in contact with the entire surface of the sack. A mixture of glycerine and iodine is much better than the pure iodine.

Deep Injections.—Deep injections into the urethra are now in such general favor, particularly of nitrate of silver, that it behooves the practitioner to become posted in the minutiæ of their use. Some urethræ are exquisitely sensitive and will not tolerate even the passage of a soft catheter. Certainly no one would inject a strong solution of silver nitrate into such a urethra unless its sensibility has been deadened by cocaine.*

But from my experience I am fully persuaded that the chief benefit derived from cocaine in urethral surgery is the immunity from shock and the reflex consequences of interference with this highly nervous portion of the body. It is a great thing to relieve pain and thus prevent suffering, but remember, that by relieving pain something of far more consequence is accomplished. Urethral surgery is a ticklish business, and when we least expect it the most serious reflex phenomena may make their appearance.

Seventh and Felix Sts.

* Since writing the above I have had prepared a solution of cocaine nitrate which I use for deep injections and urethroscopic work with silver nitrate. No chemical reaction occurs between these salts, both of them being nitrates.

LA GRIPPE OF THE LARYNX.

By DANIEL MORTON, M. D., St. Joseph, Mo., Attending Physician Home of the Friendless. Late Editor Medical Herald.

Printed in Journal American Medical Association April 16, 1892. Medical Fortnightly May 15, 1892. Medical Herald June, 1892. Read by title before the Missouri Valley Medical Society, Leavenworth, Kansas, March 17, 1892.

The true cause of influenza is still a *crux medicorum*. Da Costa has recently said, "The malady is generally assumed to be due to a microbe. But this is but a probable and intelligent assumption, for the microbe has not been found." Since these words were written several investigators have claimed the discovery of the offending bacterium, and Koch is almost willing to admit its isolation. If the Pfeiffer-Cannon bacillus is the criminal we certainly must admire the agility with which he, the smallest of the bacillus family, skipped around the globe in the short time of six weeks, and put the whole world to sneezing and coughing. Watever the etiology may be, however, clinically it is certain that the respiratory passages suffer more than any part of the body. For the first time in the history of Los Angeles, lober pneumonia appeared during the present epidemic. And it is one part of the respiratory system at a time, too—not the entire tract—that is affected. The disease seems to localize itself, just as chronic gonorrhœa consists of diseased patches scattered along the urethral canal. In some, symptoms of pneumonia are present, but no physical signs to bear out the diagnosis. In two of my post-mortems in cases of this kind at the extremes of life, enormous œdema of the lungs was found, the word "juicy" lung describing the condition perfectly. In some a bronchial catarrh is present from the beginning, but in the majority of cases, hoarseness and noises in the ear indicate involvement of the vocal cords, the

eustachian tube and tympanic cavity. *Hoarseness* is a symptom often making its appearance at the very beginning, and constituting the only prominent symptom. Again it has appeared only after the attack had apparently spent its force and the patient was prepared to believe himself recovered. This latter condition in my observation has proven far more serious in its nature than the former, the hoarseness persisting for many days and weeks, and sometimes for months. One case that I saw in consultation with Dr. John W. Leonard, twelve months after an attack of influenza, was able to talk only in a whisper. There was no cord paralysis whatever, and to-day he has entirely recovered his voice. Those suffering at the very beginning recover the use of the voice much more rapidly and completely. Aphonia has been noticed in none, the hoarseness never going beyond inability to whisper, and varying in every imaginable tone, from this to the natural voice. Often accompanying this symptom is a lack of confidence manifested by the patient in the power to control the voice; and many adults who had long since passed the time of life when the voice changes, seemed to return to this unpleasant stage of vocal developement. A minister under my care was kept in constant uneasiness during the delivery of his sermons for fear he would startle his hearers by vocal gymnastics not altogether *apropos* to the subject matter of the discourse. A certain amount of pain accompanies all attempts at vocalization in the early stages, but when the huskiness becomes chronic this entirely disappears. In some cases, after the voice is restored to its normal tone, a relapse occurs, and after a second restoration dysphonia again makes its appearance. Hoarseness may be caused by a looseness of the vocal cords, due to paralysis of the tensors of the cords, the crico-thyroid muscles, or by inflammatory thickening of the membrane lining the cords, but I should like to emphasize the point that hoarseness, which is considered the most characteristic symptom of a laryngitis, may be caused by disease entirely extrinsic to the larynx itself. This is the case in aortic aneurism when pressure produces paralysis of the vagus.

Tickling of the throat is quite common in a large number of cases, and is one of the most stubborn symptoms to relieve. It may cause no special annoyance, or it may be so severe as to produce a cough that will harrass the patient to a serious degree. I do not refer to the tickling of an elongated uvula. This "*Grip Cough*," as it is called, perhaps gives more annoyance to the physician than any other symptom. It often does not appear save at night, when it deprives the patient of rest, and may reduce him to a serious degree of nervousness. When persisting for weeks, as it often does, unless properly treated, it is plainly perceptible how such a sesult may be produced. There is no expectoration except a glairy mucous resembling the white of an egg well whipped. Treatment directed toward the lungs is wholly ineffectual. Ammonia, scilla, paregoric, ipecacuanha, chloroform, and the whole list of cough remedies are of no avail. The source of irritation is in the larynx and trachea, and the remedies must be addressed to these parts. I do not here refer to the cough of a granulated pharynx nor to one produced by hypertrophied tissue at the base of the tongue. Physical examination of the lungs will fail to discover a single rale.

Laryngeal examination shows a reddened and thickened mucous membrane lining the larynx above the true cords and covering them as well. Epiglottis congested and twigs of blood vessels plainly perceptible on the laryngeal surface, some branches projecting over the edge. The abductors and adductors in perfect condition so that cords are easily approximated or separated at will, thus ruling out any paresis. Nothing to account for voice huskiness except thickening of mucous membrane covering cords. Later on the mucous membrane becomes dry, and then follow tickling and consequent cough. The parynx and naso-pharynx and nose are coincidently affected also, though not to the same degree.

The constitutional treatment will vary according to the views of the physician as to the origin of the malady. He is the most successful specialist who recognizes the existence of diatheses, who looks for a constitutional habit in his patient, and who combats this condition at the same time that he is employing local treatment. There is a cachexia, and the laryngitis is simply one of its manifestations. Treat the cachexia as well as its manifestations. I will not review the innumerable plans of treatment. Phenacetin for the pains, salol and salycylates, lithia, or lithia waters (Garrod-Spa, Sander), to assist in the elimination of urea products, whisky as a stimulant, Dovers' powder as a sudorific, cocoa preparations as an anti-melancholic, maltine with yerba santa, strychina as a nerve tonic have been the chief remedies employed, using first one then another as indications demanded. Locally I have used albolene and liquid petroleum sprays containing in solution eucalyptol, menthol, iodine. Argenti nitras is particularly useful, especially if the remedy be applied to the pharynx as well as the larynx. I have never treated these cases without at the same time correcting any lesions in the nose and pharynx. Counter irritation over the larynx and trachea, especially with the cautery, is very useful.

In recapitulation allow me to say that, laryngitis associated with influenza is partic-

ularly severe in its nature, post la-grippe hoarseness is the most stubborn form to treat, relapses of dysphonia are very frequent, the "grip cough" is a laryngeal cough, the treatment must be largely constitutional.

SEVENTH AND FELIX STREETS.

MEATOTOMY—HOW TO PERFOM IT.

By DANIEL MORTON, M. D., St. Joseph, Mo. Attending Physician Home of the Friendless. Late Editor Medical Herald.

Read before the Missouri Valley Medical Association, Council Bluffs, Ia., Sept 9th, 1890. Printed in St. Louis Weekly Medical Review, Nov. 15th, 1890. Medical Herald, Nov., 1890.

"For who hath despised the day of small things."

I ask you to dismiss from your minds the consideration of ovariotomy, herniotomy, lithotomy and other like weighty matters, and for ten minutes to turn your attention to a paper of eight hundred words, bearing upon a simple procedure which must be done one hundred times oftener than any of the capital operations just mentioned.

I shall not speak of the indications which call for meatotomy, but confine myself to the sugical procedure alone. It is the usual custom, without preparatory treatment, to stick a bistury in the meatus and pull it out, enlarging the opening as the knife is withdrawn, regardless of the calibre of the urethra and a future hypospadias. This is slipshod, loose, inaccurate and unscientific.

The genito-urinary surgeon must contend in all operations upon the urethra, with an acid and germ-laden fluid flowing over the freshly cut surfaces of his field of operation. One can not remove the urine, but it can be sterilized and neutralized, and thus to a certain degree rendered bland and unirritating This is accomplished by the administration of the antiseptics boric acid, or sacharine, and the vegetable salts of potassium, the latter being eliminated by the kidneys as alkaline carbonates. My attention was first called to the use of boric acid in this connection three years ago by Dr. Palmer of Louisville, Ky., and since that time I have used it in the manner which he prescribes. By the use of these remedies the urine is rendered aseptic, and the liability of urethral fever reduced to a minimum.

How is one to know to what extent to slit the meatus? Is it a mere matter of guess work? Nay, verily! It is a matter of measurement. That there is a relation between the circumference of the penis and the caliber of the urethra has been established beyond a peradventure. This is now acknowledged by all genito-urinary surgeons. Having this principle to guide us it is a simple matter to make the calculation. Each inch in circumference of penis represents ten millimeters in circumference of caliber of urethra, and therefore, if the penis be three and a half inches, the caliber of the urethra for such a penis should be thirty-five millimeters, and a thirty-five French sound should readily pass from meatus to bulb. Inject a few minims of a four per cent solution of cocaine along the line of incision, having first constricted the penis with a bandage to prevent the rapid dissemination of the anæsthetic. With the knife enlarge the opening to the required size, using as a guide to determine this point a bougie corresponding in millimeters to the normal caliber of the urethra. This should readily pass through the enlarged opening down to the bulb without obstruction. But some one may say, the meatus is normally the narrowest portion of the canal, why do you cut it to full size? The answer is apparent on a moment's reflection. The contraction following the operation amounts to two or three millimeters, and thus the relation between meatus and urethra is established.

Unless the bougie a boule passes readily, the most important part of the operation has been a failure, since the band which is frequently found just within the meatus has been left untouched. Dr. J. C. Olmstead, of Atlanta, Ga., a nephew of Otis, brings out this point admirably in an article published in the Atlanta Medical and Surgical Journal, and entitled "A Plea for the Meatus Urinarius." He says: "Examination in such cases (unsuccessful operations) revealed the fact that the hypospadic slit that had been made had not reached the real source of the original troubles, namely, a tough little fibrous ring or stricture, from one-fourth to one-half inch, sometimes an inch behind the meatus. This it was that required free and deep incision, the meatus itself calling for but comparatively slight incision. The indomitable "slitter" had cut down at times to but not through this from the interior commissure of the meatus and had not gone further for the reason, I suppose, that even he had to stop somewhere,

and the meatus was gaping inquiringly at him, and ready, apparently, to swallow a "polished gas pipe."

After treatment is very simple. The passage of a steel sound following cocainization every other day for a week will prevent adhesions. The urine should be continued in its neutralized and sterilized condition until recovery.

And now if you would know the conclusion of the whole matter, (1) neutralize and sterilize the urine before operating, (2) make the caliber of meatus and urethra correspond, (3) be sure to cut the post-meatal band.

SEVENTH AND FELIX STREETS.

DISCUSSION.

DR. W. F. MILROY, Omaha, Neb. In speaking of the after-treatment Dr. Morton advises the use of cocaine in the passage of sounds. It is my experience that less pain is produced without than with the anæsthetic. Cocaine is a powerful astringent, and thus produces so much contraction of the meatus that considerable force must be used to introduce a sound of the proper size. I therefore think the doctor would cause less suffering were he not to use cocaine in his after treatment.

DR. JACOB GEIGER, St. Joseph, Mo. A contracted meatus is not a trivial affection. Small strictures near the meatus are apt to be followed by prostattorrhœa, cystitis, spermattorrhœa, and especially by mental disturbances, the patient imagining all sorts of horrible things with regard to his virile powers. This is particularly the case with young men who discover a slight narrowing at the urethral orifice. I am, for these reasons, sometimes inclined to think that anterior strictures produce more mischief than those further back. Dr. Morton has emphasized the importance of accuracy in the size to which the meatus should be cut. I heartily agree with him on this point. Like Dr. Milroy, I think the use of cocaine for the passage of sounds is not indicated.

DR. DONALD MCREA, Council Bluffs, Iowa. Mr. President, there is one point in this instructive and interesting paper which I think has hardly been sufficiently emphasized. I refer to the sterilization of the urine. Dr. Morton advises the use of boric acid. I much prefer salol. It accomplishes the purpose just as well as boric acid, and has no unpleasant effects, whatever attending its use If properly done sterilization of the urine will prevent nearly all the unpleasant effects so often attending operations upon the urethra. The dangerous results are avoided, since a bland unirritating fluid is substituted for a germ-laden one.

DR. MORTON (concluding). Mr. President, my experience regarding the use of cocaine and the passage of sounds does not agree with that of Dr. Milroy and Dr. Geiger. However, I do not wish to be understood as being tenacious on this point. I allow my patients to say whether they want cocaine used, and most of them demand the drug, especially if it has once been employed. With regard to salol I agree with Dr. McRea to a certain extent, though not clear in my mind that it is better than sacf charin or boric acid. The latter I have used with good effect in gonorrhœa because o- its known antiseptic properties upon the urine.

SOME URINALYSIS "DONT'S."

BY DANIEL MORTON, M. D., ST. JOSEPH, MO. Attending Physician Home of the Friendless. Late Editor Medical Herald.

Read before the St. Joseph Medical Society, January 11, 1890. Printed in the Medical Herald, February, 1890.

Don't call the urine a "secretion," it is an "excretion."

Don't fail to make frequent urinalyses in long continued cases of sickness. The condition of the patient varies at different times, and so does the urine.

Don't imagine that the sp. gr. is a fixed quantity. It is relative, varying with the rapidity of kidney elimination and the quantity of urine excreted.

Don't estimate the significance of the sp. gr., unless the quantity excreted for twenty-four hours be known.

The sp. gr. indicates the amount of solid matter being excreted by the kidneys, and to a certain extent the character of the ingredients. The kidneys do not excrete at a uniform speed during the twenty-four hours, and, therefore, the urine is more concentrated at one time than at another. If the sp. gr. be taken only when the kidneys are particularly active, the estimate of the solid ingredients eliminated will be too great, if taken only when the elimination is proceeding slowly the estimate will be too small. The best way, therefore, to arrive at a proper estimate is to save all the urine passed

in twenty-four hours and take the sp. gr. of the collected amount. But this is not all. The normal sp. gr. of urine is near 1020, provided 1500 cc. be eliminated, the normal quantity of urine. But now suppose 3000 cc, have been elimitated, but the urinometer still reads 1020. Are not the conditions changed? Has it not taken a larger quantity of solid constituents dissolved in the 3000 cc. to raise its sp. gr. to 1020? Is it not clear, therefore, that we must know the quantity of urine in order to properly estimate the quantity of solid mater excreted?

Don't examine a "sample" of urine, but whenever practicable get the whole twenty-four hours' urine and examine a specimen from this.

Don't begin to estimate the quantity of urine passed in twenty-four hours when the bladder is full. Empty the bladder and let the reckoning count from the time of the last urination. Begin on an empty bladder and end on an empty bladder.

Don't fail to ask your patient for urine passed before breakfast, if it is impossible to get the whole twenty-four hours' amount. It is the blood urine.

Don't put the specimen on the shelf and let it undergo all kinds of changes before examining it. Such a specimen will tell nothing about the condition of the patient.

Don't leave specimens of urine uncovered. Dirt may fall into it and chemical changes are hastened by exposure to the air.

Don't get the urine in a dirty vessel. Bottles that are macroscopically clean are microscopically filthy.

Don't forget that winter urine has a higher sp. gr. than summer urine, because the skin and other emunctory organs are not so active.

Don't think you have examined the specimen because you have made a chemical analysis.

Don't fail to examine every specimen with the microscope.

Don't make a microscopical examination until the urine has been placed in a conical glass and the sediment given time to settle.

Don't take a specimen of the sediment from the bottom. Casts are most apt to be found upon the topmost layers, because they are light, and consequently are the last things to settle.

Don't think that casts mean a recent nephritis.

Don't say that a patient never has albumen in his urine because one examination fails to reveal it. Albumen may appear in the urine at intervals of considerable time, even though the patient have an ever-present nephritis.

Don't forget that other symptoms of nephritis precede those of albumenuria and casts.

Don't think that oxaluria is an insignificant affair. It may cause a nephritis. Remember that each crystal has eight-dagger like points.

Don't forget that cubebs and copaiba cause a condition of the urine that responds to the test for albumen.

Don't fail to filter before examining the specimen for albumen.

Don't attribute unimportance to a negative urinalysis. It may be as important as a positive one, for the exclusive method of reasoning is the best way to reach a diagnosis.

Don't neglect to look for urea in all cases of persistent headache.

Don't forget that urinalysis is a most important measure in the detection of the threatening uræmia of pregnancy.

Don't look in the urine for the diagnosis, prognosis and treatment of a given case. The urine is only one of many things to be considered, and does not reveal everything about the patient's malady.

Don't fail to keep a record of every urinalysis. Much valuable information of a practical nature can be obtained by collating these examinations.

Don't forget that, chemically speaking, the important things to look for are albumen, sugar, urea.

Don't forget that, microscopically speaking, the important things to look for are casts, tyrosine, leucine and oxalic acid.

Don't forget Dr. Formad's summary of urinary sediment. It is as follows: A sediment has no significance unless formed within twenty-four hours after the urine has been passed. Every white crystal is a phosphate or an oxalate, the distinction may be made by the microscope. Every yellow crystal is uric acid if the urine be acid. A urate if it be alkaline.

Don't fail to charge for the urinalysis when making out your bill.